On-Site Delineation of Wetland Boundaries

Methods

- Routine
  - Small Areas (<5 acres) = Routine
  - Large Areas (>5 acres) = Transect
- Comprehensive

  - Almost never used except in extremely rare enforcement cases.

  - Definitions of plant strata are found in this section of the 1987 Manual.

Routine Methods

Routine Methods

Equipment and Materials:

- Base map
- Copies of data form
- Wetland plant list
- Hydric soils list
- Local soil survey
- Compass
- Spade, soil auger, or probe
- Measuring tape
- Munsell soil color book
- Stakes or flagging tape

Routine Methods

Use the routine method for small areas when:

- Project area is small (<5 acres)
- Plant communities are homogeneous
- Plant community boundaries are abrupt
- Project is not controversial

Routine Methods

Step 1. Locate the project area

Step 2. Is the area disturbed such that procedures for Atypical Situations must be used?

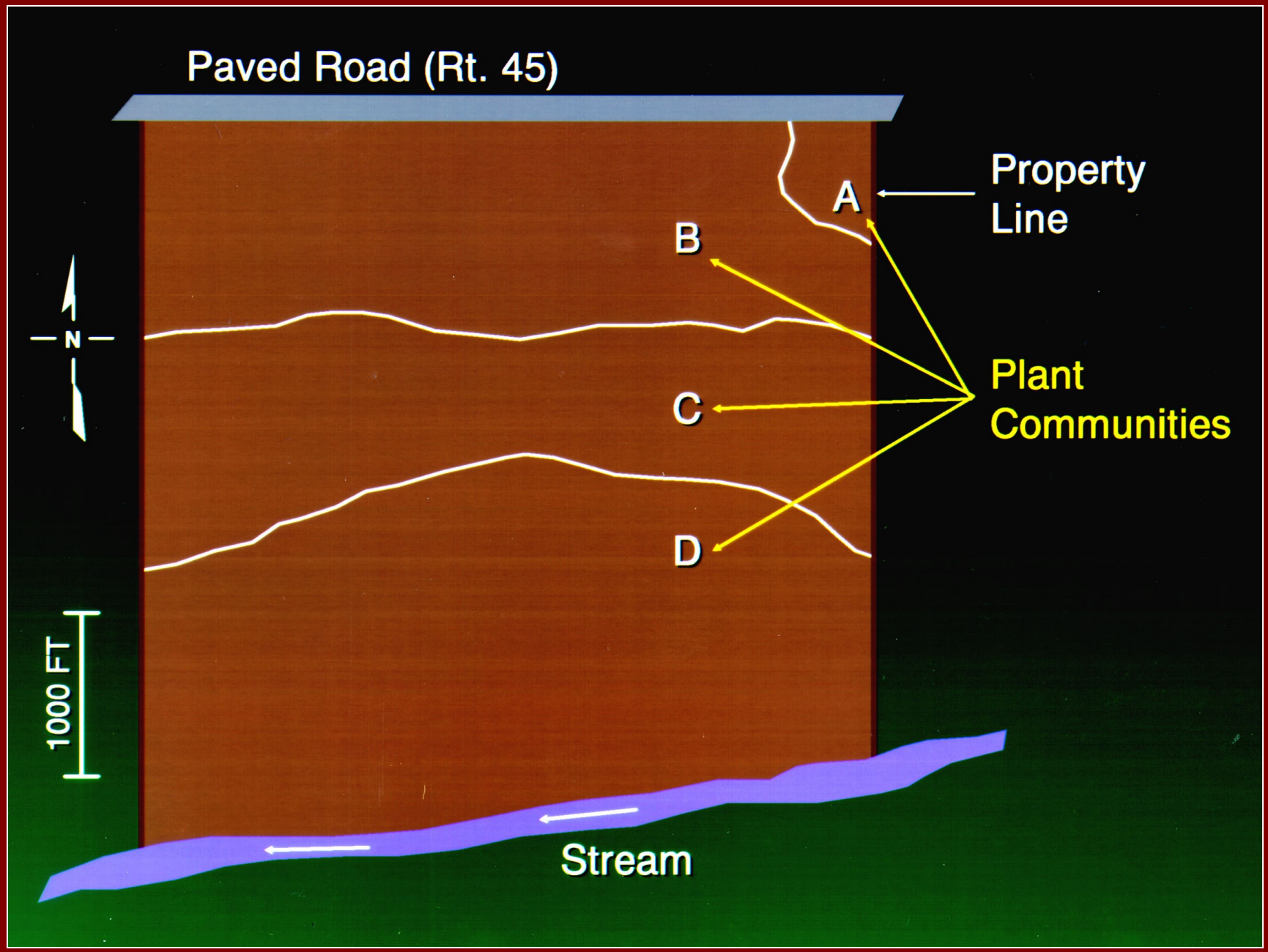
Step 3. Select a sampling approach (basic method – routine or transect)

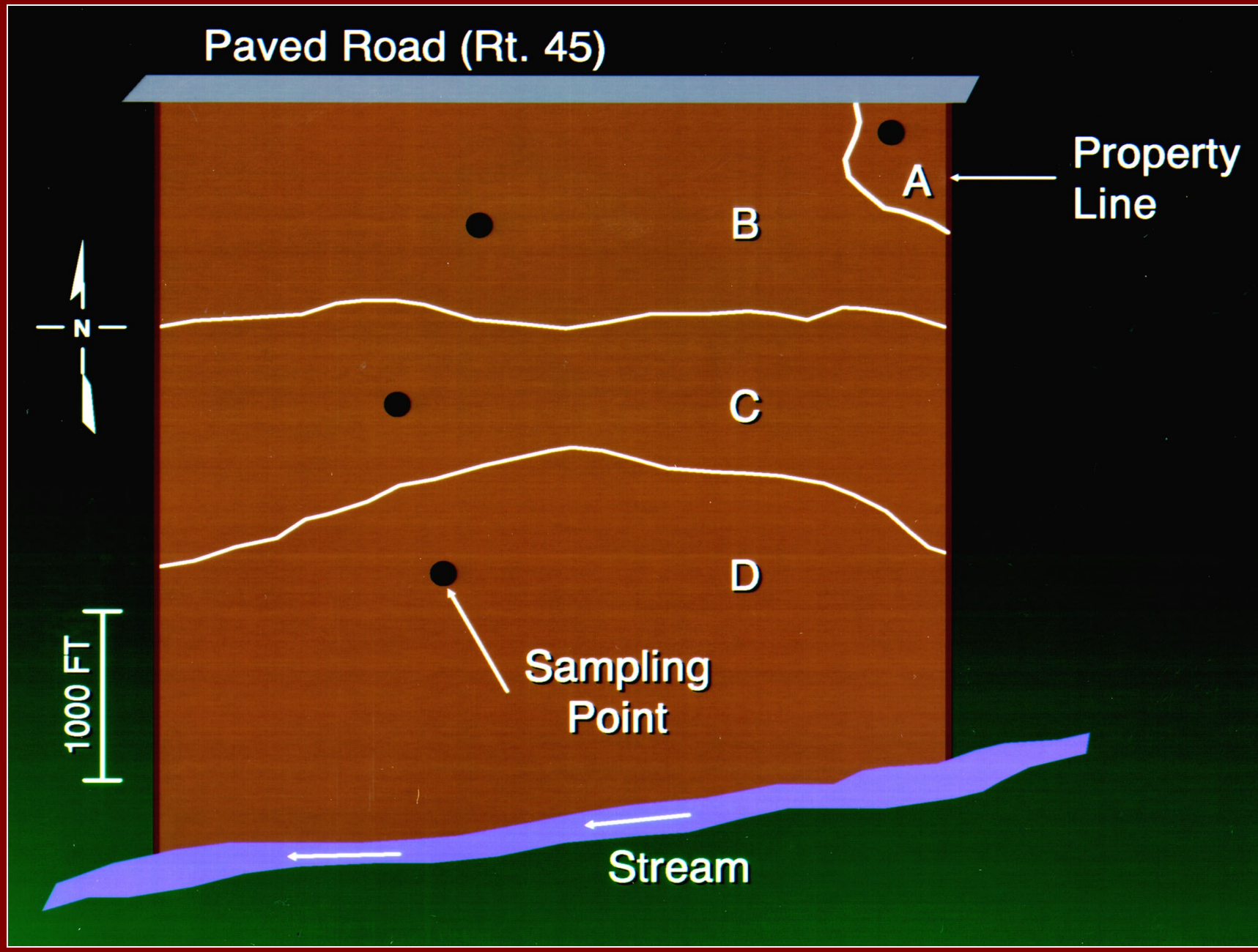
Routine Method for Small Areas

Step 4. Identify and map the plant community types

Step 5. Determine whether "normal environ- mental conditions" are present (is it a potential Problem Area wetland?)

Step 6. Select a representative observation point in each plant community


Paved Road (Rt. 45)
A
Property Line
B
C
D
Plant Communities
N
1000 FT
Stream


Paved Road (Rt. 45)
A
Property Line
B
N
C
D
1000 FT
Sampling Point
Stream

Routine Method for Small Areas

Step 7. Visually select dominant species from each stratum of the community or for PI 80% of the vegetation

Step 8. Record the indicator status of each (dominant) species

Step 9. Determine whether the vegetation is hydrophytic

Definitions of Vegetation Strata

Tree	Woody plants ≥3.0 inches DBH, regardless of heigh
Sapling/Shrub	Woody plants <3.0 inches DBH
Herb	All Non-woody plants
Woody Vine	Woody climbing plants

Vegetation Strata

A plant community with one stratum . . .

. . . and two strata

Vegetation Strata

A plant community with 3-4 strata

Data Form -- Header

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Williams' Homesite Borough/City: Unorg./Bettles Sampling Date: 6/6/06

Applicant/Owner: Ted Williams Sampling Point: 1

Investigator(s): Starsky and Hutch Landform (hillside, terrace, hummocks, etc.): flood plain

Local relief (concave, convex, none): concave/flat Slope (%): < 1%

Subregion: Interior Lat: 66°54.46'N Long: 151°32.50'W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Data Form -- Vegetation

VEGETATION

Species (Use scientific names. List all species in plot.)	Absolute % Cover	Indicator Status
1. *Alnus rubra*	40	FAC
2. *Picea mariana*	30	FACW
3. *Salix scouleriana*	20	FAC
4. *Betula glandulosa*	50	FAC
5. *Carex eburnea*	20	FACU
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
	Total Cover: 160	

Plot size 30' % Bare Ground 0

% Cover of Wetland Bryophytes _____ Total Cover of Bryophytes _____

Remarks:

Prevalence Index:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	110	x 3 =	330
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	160 (A)		470 (B)

Prevalence Index = B/A = 2.94

Other Indicators of Hydrophytic Vegetation:
(Record supporting data in Remarks or on a separate sheet.)

___ Wetland Cryptogams (record species and cover at left)

___ Morphological Adaptations

___ Problematic Hydrophytic Vegetation (Explain)

Hydrophytic Vegetation Present? Yes X No _____

Routine Method for Small Areas

Step 10. Determine whether the soil is hydric. According to the Manual, soil is assumed to be hydric if:

- All dominant species are OBL, or
- All dominants are OBL or FACW and the wetland boundary is abrupt

Step 11. Dig a soil pit

Step 12. Record indicators of hydric soil

Step 13. Determine whether the soil is hydric

Data Form -- Soil

SOIL Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
16 - 0							Peat	Organic = O-horizon
0 - 4	10YR 4/1							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators:

- X Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: permafrost

Depth (inches): 20"

Hydric Soil Present? Yes X No ___

Remarks:

Routine Method for Small Areas

Step 14. Record indicators of wetland hydrology

Step 15. Determine whether wetland hydrology is present

Data Form -- Hydrology

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Mat or Crust of Algae or Marl (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 10"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Routine Method for Small Areas

Step 16. Make the wetland determination in each plant community

Step 17. Determine the wetland/nonwetland boundary. Verify by walking the boundary and making minor adjustments based on soils and vegetation

Data Form -- Conclusions

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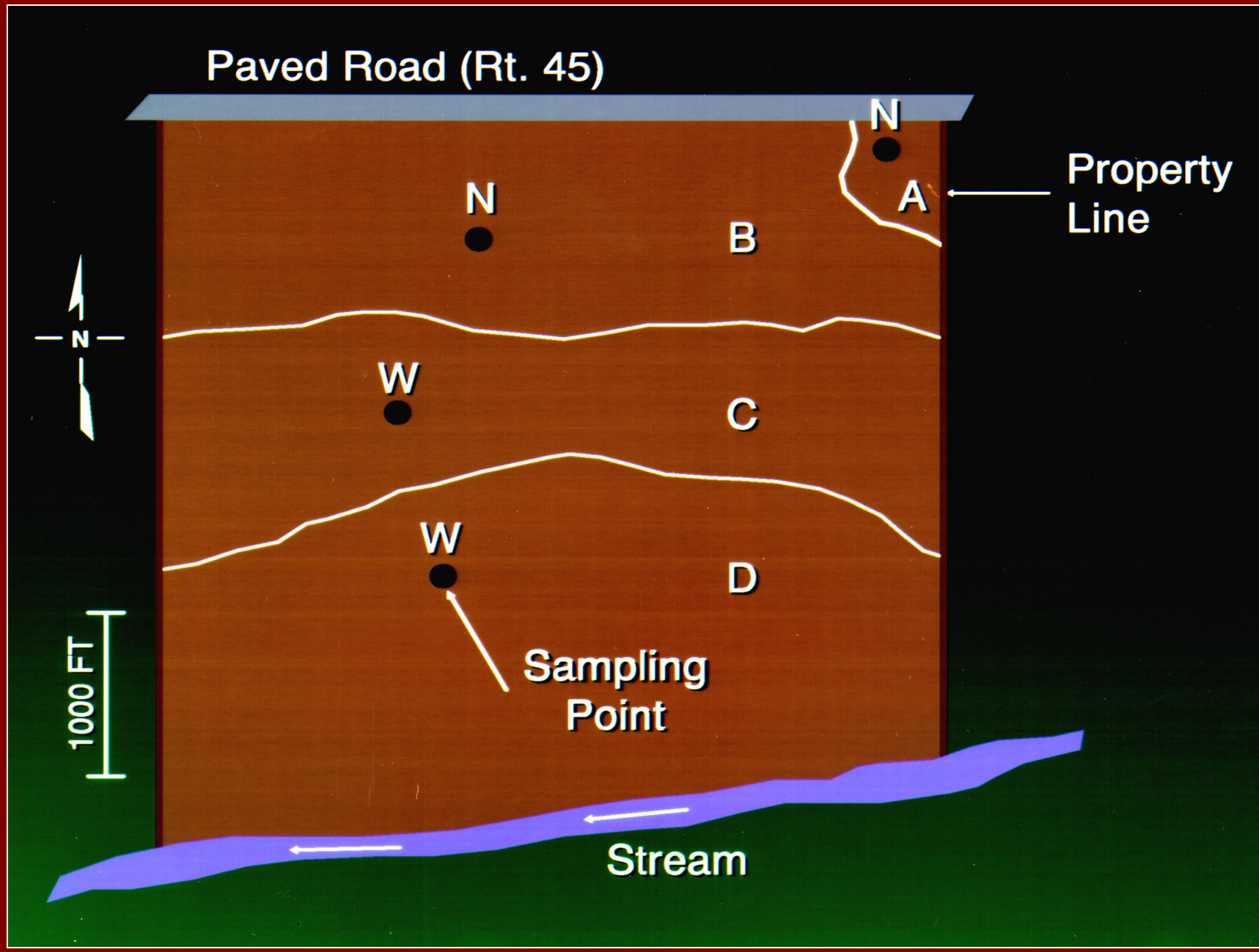
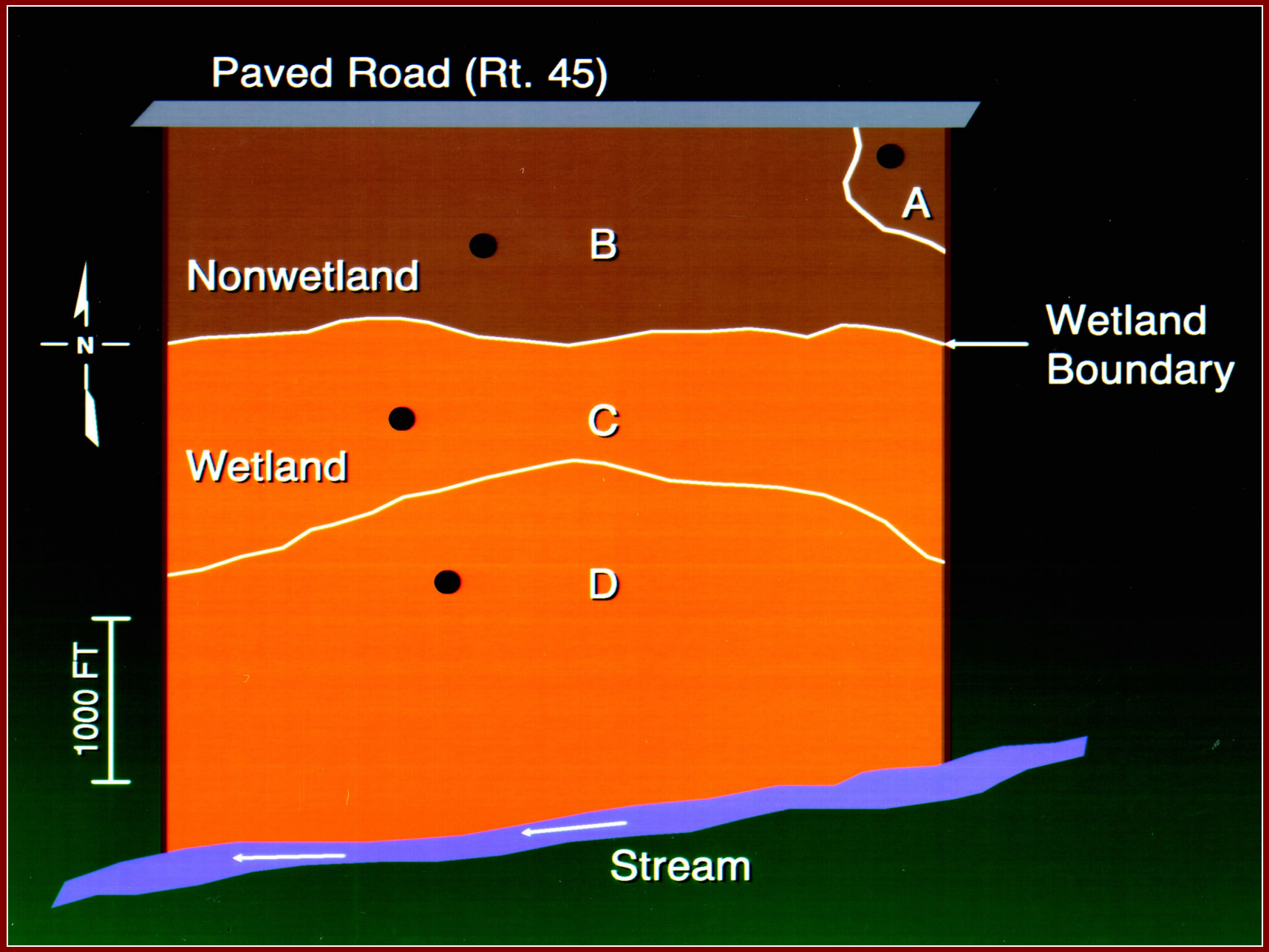
Remarks:


Paved Road (Rt. 45)
N
A
Property Line
N
B
N
W
C
W
D
1000 FT
Sampling Point
Stream


Paved Road (Rt. 45)
A
B
Nonwetland
N
Wetland Boundary
C
Wetland
D
1000 FT
Stream

Routine Method for Large Areas

Routine Method for Large Areas

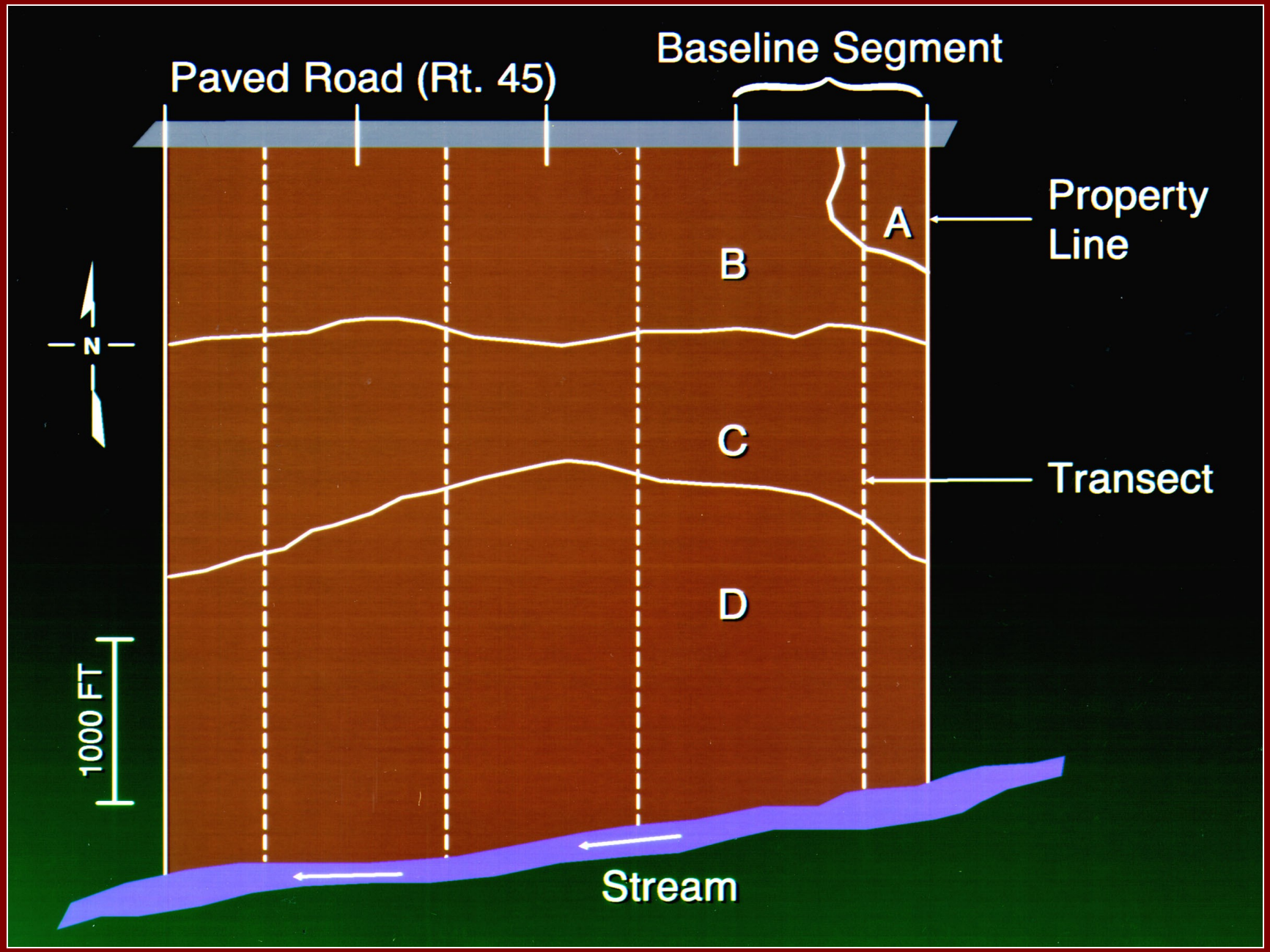
Step 18. Establish a baseline

Step 19. Determine the number and position of transects

Suggested Minimum Number of Transects

Baseline Length (mi)	No. of Transects
<1.0	3
1.0 - 2.0	3 - 5
2.0 - 4.0	5 - 8
>4.0	8 or more*

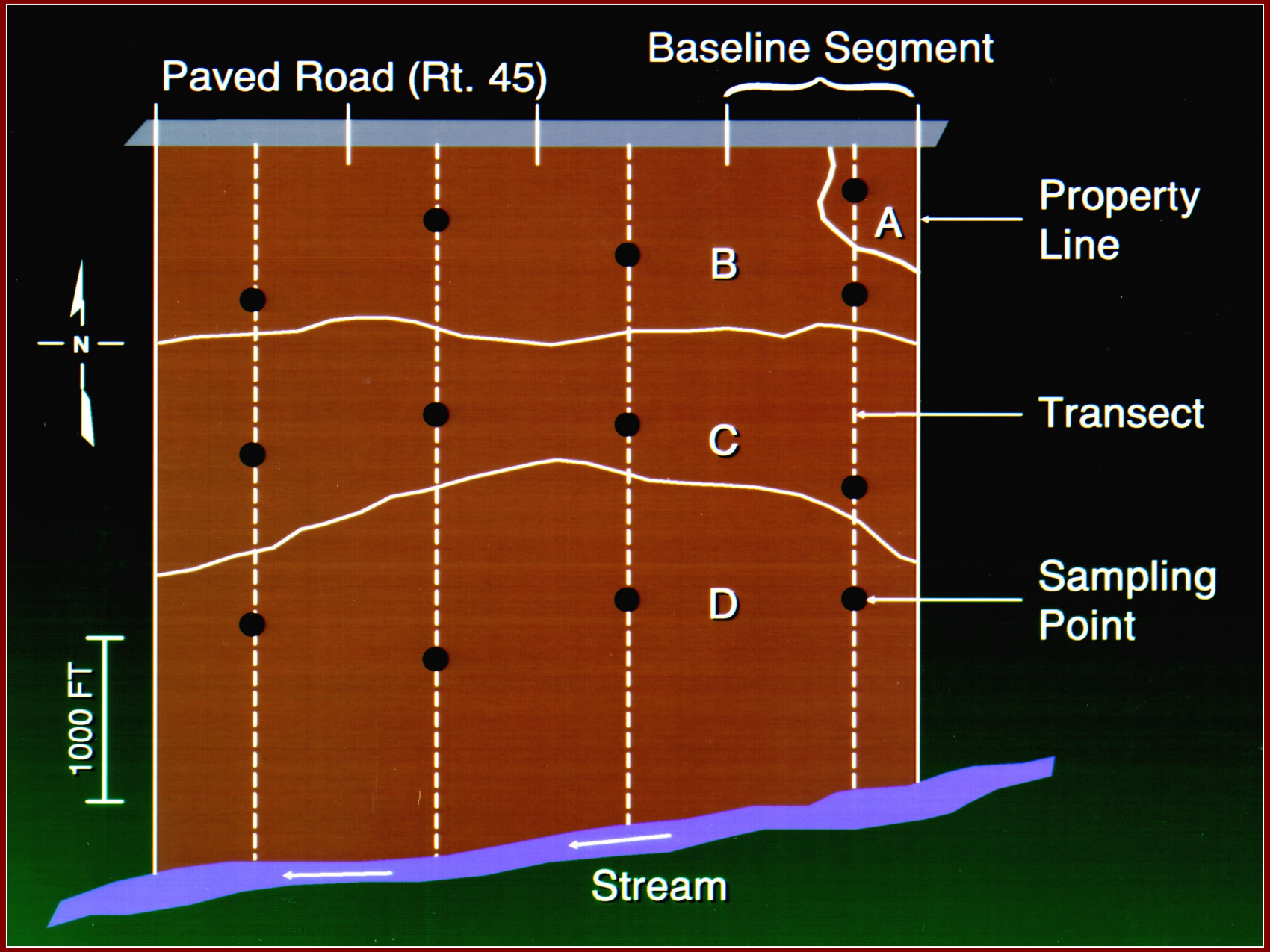
* The interval between transects should not exceed 0

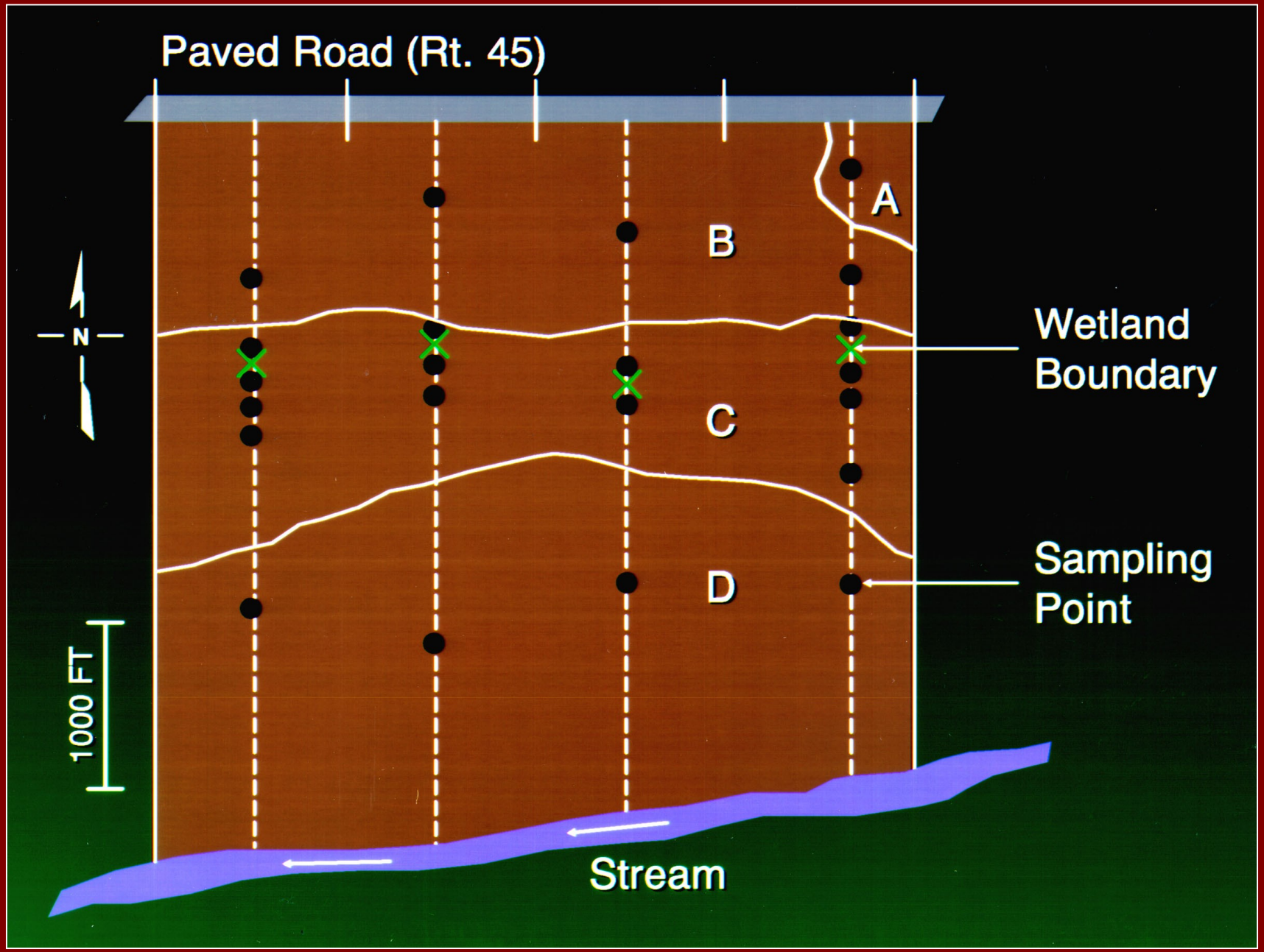

Paved Road (Rt. 45)
Baseline Segment
Property Line
A
B
C
D
Transect
N
1000 FT
Stream

Routine Method for Large Areas

Step 20. Sample points along the first transect:

- Determine whether “normal environmental conditions” are present
- Establish an observation point in the first plant community
- Characterize vegetation, soil, and hydrology, and record on a data form
- Make the wetland determination at that point
- Sample remaining points on that transect
- Determine the wetland boundary between points

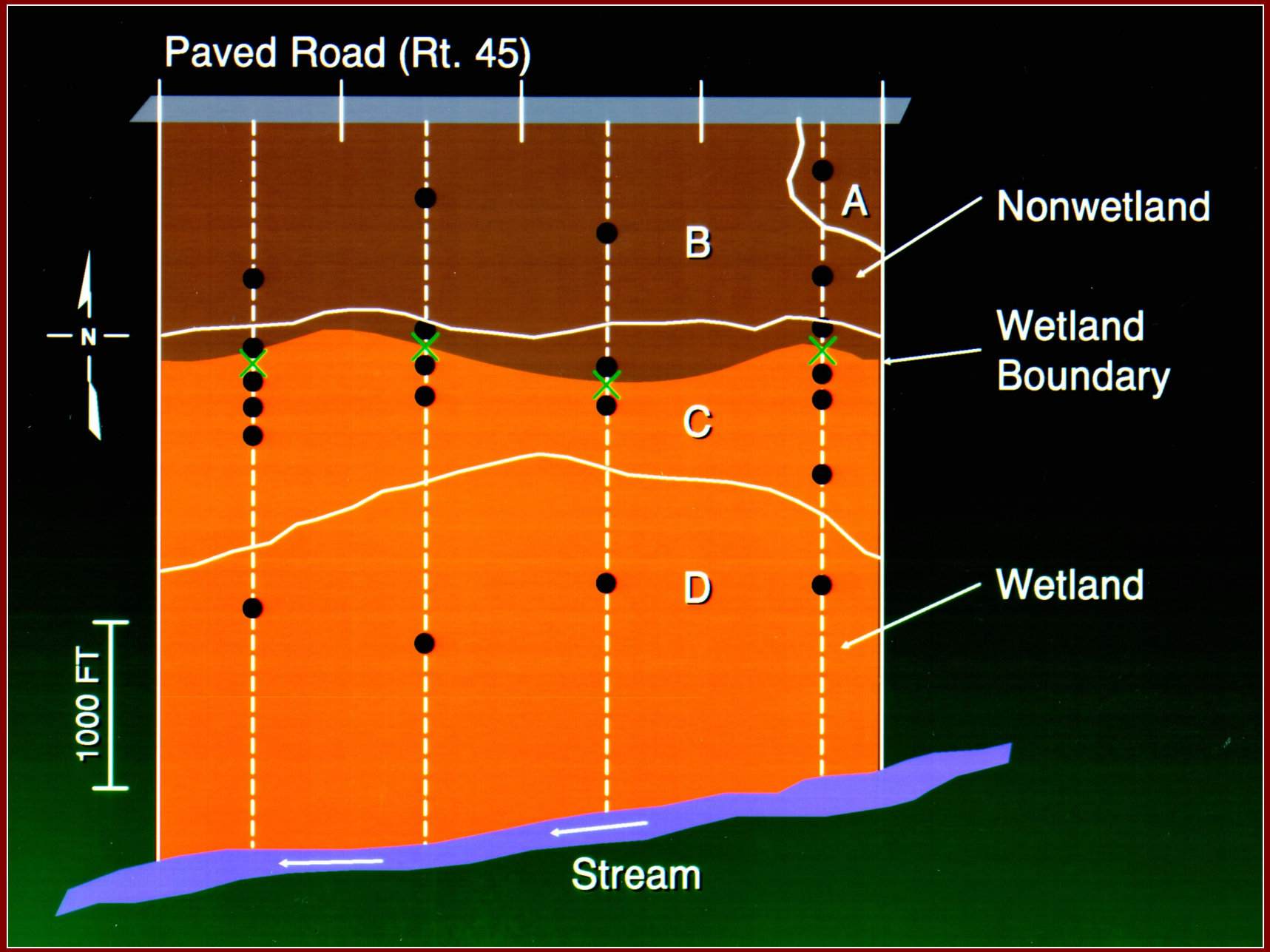

Paved Road (Rt. 45)
Baseline Segment
Property Line
A
B
C
D
Transect
Sampling Point
N
1000 FT
Stream


Paved Road (Rt. 45)
A
B
C
D
N
Wetland Boundary
Sampling Point
1000 FT
Stream

Routine Method for Large Areas

Step 21. Sample the remaining transects

Step 22. Synthesize data and determine the wetland boundary between transects


Paved Road (Rt. 45)
A
B
C
D
Nonwetland
Wetland Boundary
Wetland
N
1000 FT
Stream